

SEP 27 2006

Reply to Office Action of July 3, 2006
Atty. Dkt. No. NVDA/P000785

IN THE CLAIMS:

Please amend the claims as follows:

1. (currently amended) A method of performing early stencil rejection, comprising:
 comparing a first stencil function used to generate a stencil result to a second stencil function, wherein the first stencil function specifies a comparison function, a comparison mask, and a reference value; and
 modifying coverage data when the first stencil function matches the second stencil function to produce modified coverage data, wherein the coverage data indicates which pixels are covered by a fragment formed by an intersection of the pixels and a primitive.
2. (original) The method of claim 1, further comprising shading a fragment associated with the modified coverage data.
3. (original) The method of claim 1, wherein the stencil result includes compressed data representing stencil test results for at least two stencil values.
4. (original) The method of claim 1, wherein the first stencil function is a predicted stencil function.
5. (original) The method of claim 1, wherein modifying coverage data includes negating a portion of the coverage data when the stencil result indicates a stencil value corresponding to the portion of the coverage data failed a stencil test.
6. (original) The method of claim 1, wherein modifying coverage data includes culling at least one fragment associated with the modified coverage data.
7. (original) The method of claim 1, further comprising:
 determining whether the first stencil function matches the second stencil function;

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determining whether the second stencil function is a subset of the first stencil function if the first stencil function does not match the second stencil function; and
modifying the coverage data if the second stencil function is a subset of the first stencil function.

8. (original) The method of claim 1, further comprising:
determining that stencil writes are disabled prior to modifying the coverage data.
9. (original) The method of claim 1, further comprising:
receiving a stencil command including a stencil operation which disables stencil writes that were previously enabled;
outputting a sync token, the sync token including a copy of a sync count; and
incrementing a counter used to generate the sync count.
10. (original) The method of claim 9, further comprising:
determining whether the sync count is equal to a received sync count prior to modifying the coverage data.
11. (currently amended) An early stencil rejection system, comprising:
a storage resource configured to store stencil results that are produced using a stencil criterion that represents a predicted stencil function including a comparison function, a comparison mask, and a reference value; and
a test unit coupled to the storage resource, the test unit configured to read a portion of the stencil results and to modify coverage data that indicates which pixels are covered by an unshaded fragment formed by an intersection of the pixels and a primitive, producing modified coverage data for the unshaded fragment.
12. (currently amended) The early stencil rejection system of claim 11, wherein the test unit is configured to compare [[a]] the stencil criterion to a stencil function.

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13. (currently amended) The early stencil rejection system of claim 11, further comprising an aggregation unit coupled to the storage resource, the aggregation unit configured to receive stencil data and produce the stencil results.

14. (currently amended) The early stencil rejection system of claim 13, further comprising a stencil test result unit coupled to the aggregation unit, the stencil test result unit configured to generate the stencil data by applying ~~[[a]]~~the stencil criterion to at least one stencil value.

15. (original) The early stencil rejection system of claim 11, wherein a fragment shader is coupled to the test unit, the fragment shader configured to receive the modified coverage data and fragment data, producing shaded fragment data.

16. (original) The early stencil rejection system of claim 11, further comprising a raster operations unit coupled to the stencil aggregation unit, the raster operations unit configured to provide stencil data to the stencil aggregation unit.

17. (currently amended) A method of performing early stencil rejection, comprising:
producing stencil data using a predicted stencil function that specifies a predicted comparison function, a predicted comparison mask, and a predicted reference value;
and

modifying coverage data using the stencil data responsive to a comparison between the predicted stencil function and a stencil function, wherein the coverage data indicates which pixels are covered by a fragment formed by an intersection of the pixels and a primitive.

18. (original) The method of claim 17, wherein the coverage data is modified when either the stencil function is a subset of the predicted stencil function or the stencil function is the same as the predicted stencil function.

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19. (original) The method of claim 17, further comprising:
updating the stencil data when a stencil value has changed.
20. (original) The method of claim 17, further comprising:
updating the stencil data when the predicted stencil function has changed.